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COST-EFFECTIVENESS OF TNF-ALPHA BLOCKERS IN REAL-WORLD SETTING OF CZECH REGISTRY

Dolezal T[1], Petrikova A[2], Pavelka K[3]

[1]Charles University, 3rd Medical Faculty, Prague, Czech Republic, [2]University of Veterinary and Pharmaceutical Sciences Brno, Brno, Czech Republic, [3]Charles University, Rheumatology Institute, Prague, Czech Republic

OBJECTIVES: Recently the LUNDEX index as a composite measure of therapeutic response and adherence on treatment was introduced to rheumatology.The objective of our study was to assess the cost-effectiveness of TNF-alpha blockers (infliximab-INF, adalimumab-ADA and etanercept-ETA) in Czech Republic based on real-world data from ATTRA registry. **METHODS:** Therapeutic response and the adherence data were derived from Czech registry of biologics in rheumatoid arthritis (ATTRA). The time horizon was 12 months. The response criterion used in this analysis was the remission based on EULAR definition (DAS28 < 2.6). The direct health care costs including the cost of administration during 12 months were calculated. **RESULTS:** Drug and administration costs for the payer during 12 months were 428,901 CZK (€16,437) for etanercept, 454,203 CZK (€17,467) for infliximab and 455,270 CZK (€17,510) for adalimumab. For calculation of the cost per LUNDEX-response over 12 months the total costs were divided by the LUNDEX-response. The results for each TNF-a blocker are shown in table as ETA: 0.83, 0.282, 0.23, 71,723EUR; INF: 0.78, 0.129, 0.10, 174,670EUR; ADA: 0.81, 0.178, 0.14, 125,074EUR for Therapy adherence, Proportion of patients in remission, LUNDEX response, Cost/LUNDEX per 12 months where 1 EUR = 26 CZK. The average cost per LUNDEX-responder month are were calculated by dividing the costs/LUNDEX per 12 months by 12. The results are €5977 for etanercept, €14,556 for infliximab and €10,423 for adalimumab. **CONCLUSIONS:** The LUNDEX is useful tool for evaluating the effectiveness of TNF-alpha blockers in real-world clinical practice and biologics registries combining two important dimensions (adherence and response). From the perspective of Czech registry ATTRA etanercept seems to be the most cost-effective option.

PMS42

HEALTH ECONOMIC EVALUATION OF THE TREATMENT OF OSTEOPOROSIS IN FIVE ITALIAN REGIONS

Baio G[1], Di Tanna GL[2], Integlia D[3], Pammolli F[4]

[1]University College London, London, UK, [2]University of Rome "La Sapienza", Rome, Italy, [3]CERM, Rome, Italy, [4]Institute for Advanced Studies, Lucca, Italy

OBJECTIVES: Oral bisphosphonates (OB) represent the standard treatments for osteoporosis, but despite their proven effectiveness in clinical trials, they have shown significant problems with compliance in clinical practice. The objective of this paper is to study the cost-effectiveness (CE) of Zoledronic Acid (Zol) a molecule still belonging to the category of bisphosphonates, but whose administration route is intravenous. Due to this circumstance, treatment with Zol potentially overcomes the limitations of OB, since patients are treated once a year with a single infusion. **METHODS:** We use a Bayesian Markov model and perform a CE analysis integrating evidence from different sources, such as published data on clinical outcomes and official records on population, mortality and morbidity; the costs considered are for hospitalisations, pharmacological treatment and rehabilitation. Uncertainty is propagated through the model using MCMC based algorithms. The validity of the results is checked using Probabilistic Sensitivity Analysis, summarised by means of the Cost-effectiveness acceptability curve (CEAC) and the Expected value of information (EVI). **RESULTS:** In all the 5 regions analysed, Zol tends to reduce the number of re-fractures (–24% in Lombardia, with similar figures in the other regions), due to its higher compliance. Despite higher costs for treatment, Zol produces net savings in all the regions. The analysis of CEAC shows that the uncertainty related to the CE of Zol is limited in all the regions (with willingness to pay as low as €12,000, the posterior probability of CE reaches values as high as 0.96 in comparison with OB). The EVI analysis also shows that the value of acquiring additional information to limit uncertainty in the CE is limited. **CONCLUSIONS:** Zoledronic Acid proves to be an interesting alternative to OB, capable of overcoming their limitations in terms of compliance with treatment.onal information to limit uncertainty in the CE is limited.

PMS43

ECONOMIC EVALUATION OF GLUCOSAMINE SULPHATE TREATMENT IN KNEE OSTEOARTHRITIS

Simoens S

Katholieke Universiteit Leuven, Leuven, Belgium

OBJECTIVES: This study aims to conduct a cost-effectiveness analysis of glucosamine sulphate treatment as compared to placebo in knee osteoarthritis from the Belgian health care system perspective. The economic evaluation investigates whether the drug acquisition costs of patients receiving glucosamine sulphate treatment are balanced by a lower incidence of total knee replacement and reduced hospitalization costs. **METHODS:** The study collected Belgian cost data and derived effectiveness data from a long-term follow-up of patients with knee osteoarthritis. Two randomised, placebo-controlled, double-blind trials compared patients who had received oral glucosamine sulphate 1500 mg once-a-day for up to 3 years with patients who had received placebo. Patients who had participated in these two trials and who had received at least one year of treatment were enrolled in a retrospective assessment of the incidence of total knee replacement during a five-year follow-up period. The price year was 2006. **RESULTS:** The sample consisted of 131 patients who had formerly received placebo and 144 patients who had formerly received glucosamine sulphate. The number of patients undergoing total knee replacement during the 5-year follow-up amounted to 19 patients (14.5%) in the former placebo group and 9 patients (6.3%) in the former glucosamine sulphate group. Health care costs per patient amounted to €1103 in the former placebo group and €901 in the former glucosamine sulphate group. **CONCLUSIONS:** Treatment of knee osteoarthritis with glucosamine sulphate for at least one year and up to three years was associated with a lower incidence of total knee replacement and lower health care costs over an observation period of eight years as compared with placebo.

PMS45

COST-EFFECTIVENESS OF BALLOON KYPHOPLASTY IN PATIENTS WITH SYMPTOMATIC VERTEBRAL COMPRESSION FRACTURES IN A UK SETTING

Ström O[1], Leonard K[2], Cooper C[3], Marsh D[4]

[1]i3 Innovus, Stockholm, Sweden, [2]Medtronic UK, Watford, UK, [3]University of Southampton, Southampton, UK, [4]Institute of Orthopaedics and Musculoskeletal Science, UCL, London, UK

OBJECTIVES: Vertebral compression fractures (VCFs) in osteoporotic patients are associated with chronic pain, a reduction in health-related quality of life (QoL) and high health care costs. Balloon Kyphoplasty (BKP) is a minimally invasive procedure that has resulted in pain relief, vertebral body height-restoration, and improved physical functioning in patients with symptomatic VCFs. BKP was shown to improve health-related QoL in a 12-month analysis of a randomised phase-III trial. The objective of this study was to estimate the cost-effectiveness of BKP compared to non-surgical management in a UK setting. **METHODS:** A Markov cost-effectiveness model was constructed to evaluate BKP after painful hospitalised VCFs from a health care perspective. The model was populated with relevant epidemiology and cost data. It was assumed that QoL-benefits found at 12 months linearly approached zero during the following 24 months and that patients receiving BKP required 6 less hospital bed-days compared to patients given non-surgical management. No reduction of future fracture risk was assumed. The cost of the BKP devices and procedure was £2690 and £1400, respectively. A 43% reduction in mortality during the first year after the procedure was explored in sensitivity analysis. **RESULTS:** The procedure was in the base-case associated with estimated QALY-gains of 0.17 and cost/QALY of £8800 in 70 year old patients. Results marginally deteriorated with increasing age at the time of surgery due to higher mortality and fracture rates, both of which shorten the accrued benefit of BKP. Inclusion of a mortality reduction resulted in 0.448 life years gained per patient and a cost/QALY of £4600. The results were also sensitive to assumptions about the cost of the procedure, avoided length of hospital-stay and persistence of balloon kyphoplasty-related QoL-benefits. **CONCLUSIONS:** The results indicate that BKP provides a cost-effective alternative for treating patients with hospitalised VCFs in a UK-setting.

PMS46

INDIRECT COSTS OF RHEUMATOID ARTHRITIS BEFORE AND AFTER 6 MONTHS OF TREATMENT WITH BIOLOGICS: THE GISEA STUDY

Lama N[1], Mancarella L[2], de Portu S[3], Lapadula G[4], Ferraccioli G[2], Mantovani LG[5]

[1]Second University of Naples, Naples, Italy, [2]Catholic University of the Sacred Heart, Rome, Italy, [3]University Federico II, Naples, Italy, [4]University of Bari, Bari, Italy, [5]University of Naples, Federico II, Naples, Italy

OBJECTIVES: The primary objective was to determine and analyze the indirect costs associated with rheumatoid arthritis (RA) before and after six months of treatment with TNFα blockers. The secondary objective was to evaluate the impact of health condition improvement, assessed using Health Assessment Questionnaire (HAQ) questionnaire, on the indirect costs after treatment. **METHODS:** The study was a retrospective-longitudinal cost analysis and reflects the common practice of using anti-TNFα drugs. Indirect costs before and after anti-TNFα therapy initiation were recorded then compared in order to estimate the decrease in indirect costs due to the use of TNFα blockers. Patients were asked to provide information on working days lost in the six months preceding the enrollment; and followed up for six months after starting anti-TNFα therapy. Costs were quantified using Human Capital Approach method and considering the societal perspective. A zero inflated negative binomial model was adopted to evaluate the effect of HAQ improvement adjusting by demographic data and other factors that influence indirect costs **RESULTS:** The mean cost per month per patient before and after the starting therapy with anti-TNFα was €343.18 and €58.92, respectively ($p < 0.0001$). HAQ improvement was to be associated with a decreasing risk to incur indirect costs. **CONCLUSIONS:** Our data links the indirect costs due to the disease mostly to its impact on function and degree of disability of the patients. Our results showed that anti-TNFα therapy is effective even in the short term this is mainly attributable to the dramatic improvement in functional status and, consequently, in quality of life. This improvement can be translated in monetary terms. Results suggest that anti-TNFα can dramatically decrease the indirect costs of RA, and the amount of saved resources will be increased if patients are promptly treated thus avoiding disease progression.

PMS47

POTENTIAL HEALTH ECONOMIC BENEFITS OF IMPROVING THE CARDIOVASCULAR SAFETY PROFILE OF NSAIDS

Svedbom A[1], Pfister P[2], Miltenburger C[3], Holmstrom S[2], Borgström F[1]

[1]i3 Innovus, Stockholm, Sweden, [2]NicOx, Sophia Antipolis Cedex, France, [3]i3 Innovus, Berlin, Germany

OBJECTIVES: To quantify potential cost savings and quality adjusted life year (QALY) gains of improving the blood pressure (BP) profile of non-steroidal anti inflammatory drugs (NSAIDs). **METHODS:** Increasing attention has been paid to the